



2022 User Manual

Trapping Surveys



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Program: Japanese Beetle (JB)

Application: ArcGIS Field Maps

Host: USDA-MRP Enterprise (portal)

CHECK URL! <https://maps.mrp.usda.gov/arcgis/>

Map Title: PPQ JB Trapping 2022 Field Map

**** Refer to the “[Mobile Collection Tools](#)” public webpage for all training documentation and videos.**

2022 Disclaimer: Training techniques or workflows held within are designed as basic job aids. Mobile collection tools and technology used are constantly being improved upon. End users should consult with management for current workflows and standards.

Overview and What's New 2022

This document provides guidelines for conducting electronic data collection for the **Japanese Beetle (JB)** program using the **ArcGIS Field Maps** application on mobile devices. The application was developed to reflect program specifics and is intended to replace paper surveys.



ArcGIS Field Maps
Mobile Application

The look and feel of the map for **PPQ JB Trapping 2022 Field Map** remains very similar to that of 2021 except for a few small changes as described below:

- There is no requirement to record an Install as an initial activity. That is implied by the trap placement data entry and *Install Date* field.
- The *Trap Status* field on a new trap placement is defaulted to: “Active”. *Trap Status* should be checked and updated with each visit.
- A non-editable layer for “JB Trap Sites 2021” is defaulted as OFF for your reference. To view this layer, turn it on.
- Japanese Beetle trapping survey uses just one Trap Type and one Lure. The JB Field Map displays “Japanese Beetle Trap” and “JB Dual-Lure” on the Trap Site form, but these values are not editable by a surveyor.

CHECK YOUR PORTAL URL!! Sign out of the “OLD”

In the fall of 2021, the APHIS GIS Enterprise (portal) migrated from Esri management to MRP management. The “old” Esri managed Enterprise portal URL should no longer be used.

For detailed steps to sign into the “new” MRP GIS Enterprise (portal), see [Sign in to ArcGIS Enterprise](#).

ArcGIS Enterprise (USDA-MRP GIS Portal)

Sign In

Requires Wi-Fi connection and eAuthentication Level 2 User ID and Password.

You will need to sign into ArcGIS Enterprise (USDA-MRP GIS Portal) to locate maps shared with your USDA-MRP GIS Portal user account. Once signed in, ArcGIS Field Maps will retain your sign in for offline data collection.

Locate the ArcGIS Field Maps application icon and tap to open it. (Figure 1)



Figure 1. ArcGIS Field Maps application icon

Field Maps presents sign-in options: “Sign in with ArcGIS Online” or “Sign in with ArcGIS Enterprise”. (Red box in Figure 2)

Tap “Sign In with ArcGIS Enterprise”.



Figure 2. ArcGIS Field Maps Sign in screen

On first opening the application, you will have to add the ArcGIS Enterprise URL. Once established, your device saves this as a sign in option. The red box in Figure 3 indicates a saved URL and the yellow box in Figure 3 highlights the option to “Specify a New URL”.

The USDA-MRP GIS Portal URL is: <https://maps.mrp.usda.gov/arcgis>

Specify a New URL

If choosing to “Specify a New URL”, this is entered manually using the keyboard. Check it carefully and then tap “Ok”. (Figure 4)

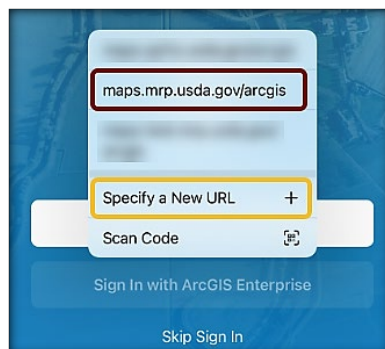


Figure 3. Sign in with ArcGIS Enterprise options



Figure 4. Specify a New URL

Next you may be asked to confirm “usda.gov” to Sign In. Tap “Continue”. (Figure 5)

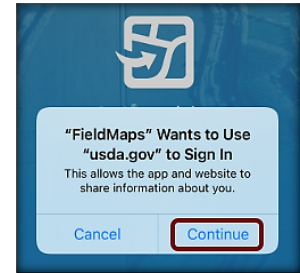


Figure 5. Confirm usda.gov sign in

Again, choose the Enterprise login by tapping on the blue “eAuth Account” button. (Figure 6)

Finally, you will be presented with the eAuthentication Sign In screen. Enter your eAuthentication User ID and password. Then tap “Log In with Password” or “return” on the keyboard. (Figure 7)

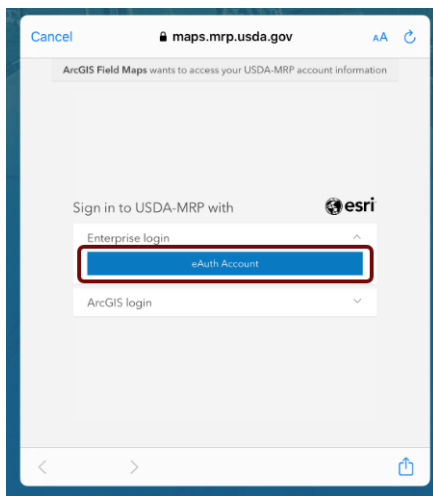


Figure 6. Sign in to USDA-MRP with eAuth Account

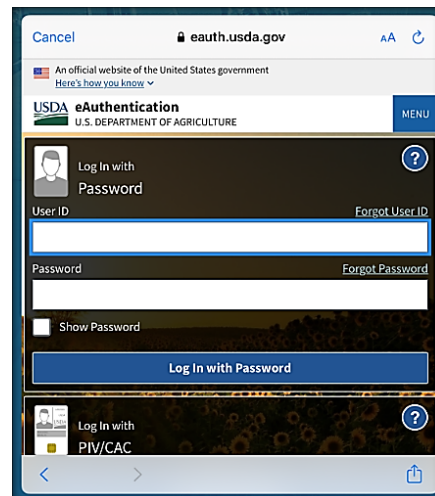


Figure 7. eAuthentication User ID and Password

CHECK YOUR PORTAL URL!! Update to the “NEW” URL

In the fall of 2021, the Enterprise environment migrated from Esri management to USDA-MRP management. The “old” Esri managed Enterprise portal URL can no longer be used.

To update this URL connection, tap “Sign in with ArcGIS Enterprise” and then “Specify a new URL” as indicated in [Figure 3](#) above.

Manually enter the USDA-MRP GIS Portal URL: <https://maps.mrp.usda.gov/arcgis>

Training Maps

Requires Wi-Fi connection and eAuthentication Level 2 User ID and Password.


In 2022, with training maps hosted in the *stage* environment, users may “Specify a New URL” to access training maps for demonstrations and practice but must sign out when training exercises are completed to avoid accidental data entry when performing “real” survey activities.

The stage URL (hosting training maps) is: <https://maps-stg.mrp.usda.gov/arcgis>

****BE SURE TO ENTER REAL DATA IN PRODUCTION MAPS ONLY!!!****

The production URL (hosting official survey maps) is: <https://maps.mrp.usda.gov/arcgis>

Sign Out

To sign out of any environment, tap the profile icon  on the Maps page in the upper left, scroll down, and tap “Sign Out”.

Tap “Sign Out” again to confirm the action. (Figure 8)

Then choose “Sign In with ArcGIS Enterprise” to enter the correct URL. For reminders on signing in, see [Sign In](#) section.

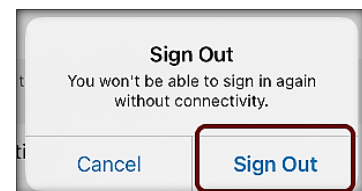


Figure 8. Sign out confirmation

Disconnected Data Collection

The ArcGIS Field Maps application is specifically designed to operate in **disconnected** mode. An area of interest is downloaded to your device while connected to a Wi-Fi network. Then the device is disconnected from the internet and field data collection is performed. Once a reliable network connection is regained, the data is synchronized with the online map hosted in the USDA-MRP GIS (Portal).

It is common for a pest program surveyor to download a map area for a season/year and continuously use it. This means *daily* sync of data collected in the morning (before start) to pull new data into the map view and in the evening (end of daily data collection) to push out data collected for the day on that device. This workflow, using the same downloaded map over a period of time, allows the user to cycle through steps 3-6 (shown in the dotted circled arrows below) throughout a data collection season.

The diagram below (Figure 9) represents the workflow of the disconnected mode concept.

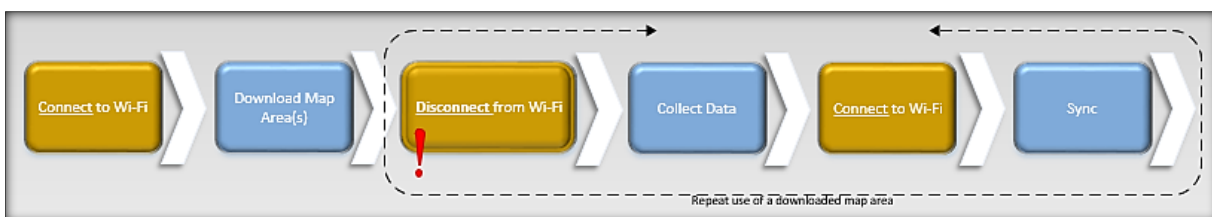


Figure 9. Disconnected Workflow Diagram

Never assume you are prepared for offline data collection. **ALWAYS** perform a few tests in the parking lot before you go. For a sample set of steps, see the next section on [Before You Go](#).

Before You Go

Be sure all is ready for field data collection in disconnected mode *before* you leave. This includes downloading and testing a map area and performing a [data sync](#).

Download Map Area(s)

This step may be carried out or overseen by your supervisor or local GIS Specialist. If performing yourself, make sure of the *Level of Detail* and *Area of Interest*.

A strong Wi-Fi connection is key to success. For detailed steps, refer to the [ArcGIS Field Maps Getting Started Guide](#).

Parking Lot Tests

From the Settings application on your iPad, turn Wi-Fi **OFF** and Location Services **ON**.

1. Unlock the iPad
2. Open the ArcGIS Field Maps app.
3. Locate and open the offline map area:
 - a. Zoom in/out
 - b. Tap the add data button to be sure the data form appears to the left with GPS reading in blue (not red).
 - c. Tap “Cancel”.
 - d. Then “Discard” that point

Now you are ready to head out to the field!

If you do not see your map or it does not open as expected, you are not signed in or the offline map download was unsuccessful. Go back inside, connect back to Wi-Fi, and try again.

Collect Data

Reminder! Synchronize your map at the beginning and the end of each workday.

ArcGIS Field Maps opens in the last map view used. If the [Before You Go](#) steps were performed, opening ArcGIS Field Maps should also open the previously downloaded map area. Tap the back arrow at the top left of the screen to locate the appropriate downloaded map area for data collection, if needed.

Place a Trap

When? Trap placement is typically performed at the start of a survey season.


All data collection to follow, once the trap is placed, is considered a [Trap Activity](#).

****Always follow program survey protocol to determine suitable locations for installing traps.**

Use *JB Trap Sites 2022* to add new trap sites or activities.

The *JB Trap Sites 2021* layer may be turned on *as reference* to view last year's trap locations. (Figure 10)

For details on using the *Markup* layer, see the [ArcGIS Field Maps Getting Started Guide](#).

1. Stand near the newly installed trap.
2. Tap the blue icon with the white plus sign  located in the lower-right corner of the screen to add a new trap site.

3. Select the appropriate *trap status*: "Active" from the list.
The point on the map has a **blue** circle around it if your location meets GPS accuracy requirements and **red** if not. For more information on GPS troubleshooting tips, refer to the [Mobile Solutions Manual](#) (page 19)

4. Fill out the main data form.
* Asterisks indicate mandatory fields.
Verify the **Trap Status** field and symbol on the map. See Map Legend Figure 11.
Optional fields should be completed following survey protocol.
5. Review your entered data carefully prior to submitting the form.
6. Tap the **Submit** button on the upper-right corner of the form to save the new trap site record.

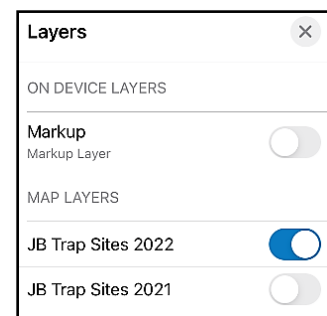


Figure 10. JB Layers menu

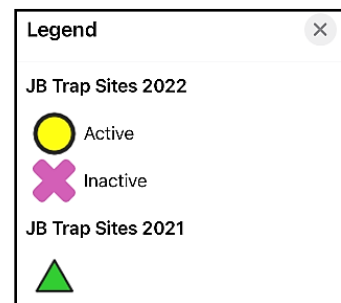


Figure 11. JB Map Legend

NOTE:

If the Submit button fails, you have not completed all required fields or GPS accuracy requirements were not met.

Record a Trap Activity

Once a trap is placed, an action performed on any future visit is considered a Trap Activity.

When a trap is removed, missing, or relocated, you must record the appropriate trap activity and then update the [Trap Status](#) field to "Inactive".



Figure 12. Record a Trap Activity workflow

1. Locate the appropriate trap site and tap its symbol on the map.
When selected, the trap site symbol is highlighted in **cyan**, and the trap site data form opens on the left side of the screen.

Select carefully (by zooming in) and verify that the trap you selected is correct by reviewing the *Trap ID*.

2. Scroll down the trap site data form and tap "JB Activities 2022" or tap the link icon. (Figure 13)

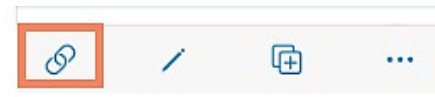


Figure 13. Activities link

3. Tap the blue Add button to add a new activity. (Figure 14)
4. Fill out the activity data form.
* Asterisks indicate mandatory fields.
Optional fields should be completed following survey protocol.

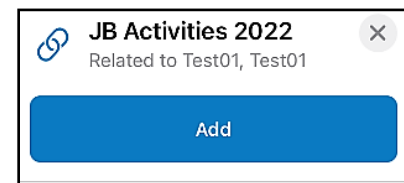


Figure 14. Add a Trap Activity

5. Verify all is correct and tap **Submit** in the upper right corner of the screen to complete the activity entry.

Update the Trap Site Status

When a trap is removed, missing, or relocated, you must record the appropriate trap activity and then update the **Trap Status** field to "Inactive", as described below:

1. Tap the trap icon to select it, scroll down, and tap Edit.
2. Change the **Trap Status** field from Active to Inactive.
3. Tap Submit and close the data form.

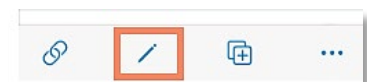


Figure 15. Edit icon

Relocate a Trap

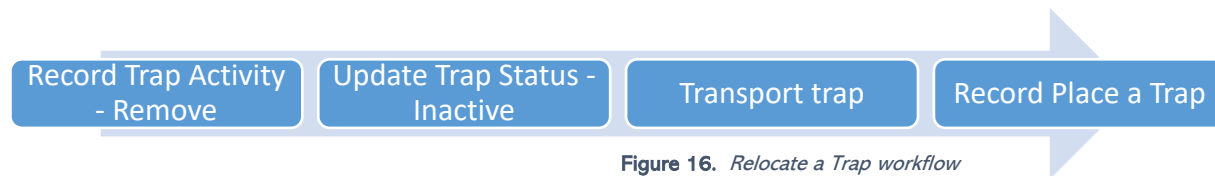


Figure 16. Relocate a Trap workflow

Relocating a trap requires that you remove a trap (Trap Activity) and place it in a new location (Place a Trap):

1. Follow steps 1-5 as above in [Record a Trap Activity](#), selecting “**Remove**” as the Activity Type.
2. Tap **Submit** and close the JB Activities 2022 form. Follow [Update Trap Status](#) steps to update as “**Inactive**”.
3. Physically transport the trap to its new location and install it.
4. Follow the [Place a Trap](#) steps to record the new location for the trap.

End of Season Process

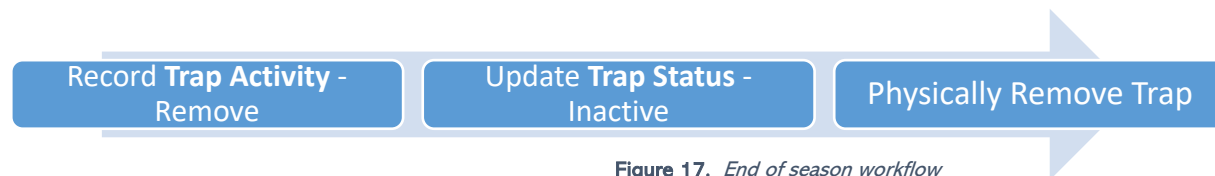


Figure 17. End of season workflow

When a trap is removed, missing, or relocated, you must record the appropriate trap activity and then update the **Trap Status field to “Inactive”.

As with the steps involved in removing a trap for any reason, there are two important data entry steps to take:

1. [Record a Trap Activity](#) selecting the “**Remove**” as the Activity Type.
2. Tap **Submit** and close the JB Activities 2022 form. Follow the [Update Trap Status](#) steps to update as “**Inactive**”.

NOTE:

Completing these steps will **not** remove the symbol for the trap on the map. The symbol simply changes to reflect the trap as Inactive with the last recorded Trap Activity as “Remove”. This is correct and important to the data capture.

Do NOT delete the trap symbol.

Daily Data Sync

Be sure you are connected to a strong Wi-Fi network.

****Sync your data first thing in the morning AND last thing at night – DAILY!**

This **both** pushes your data collection out and brings in other edits to your map.

Locate the Map Area containing data collection points from the day.

1. You may choose the sync icon from within a map area. Tap the sync icon at the top right of the map. (Figure 18)

OR

2. You may also choose to sync by choosing the ellipsis menu found on each Map Area. You will have the option to Sync, Rename, or Remove Area. (Figure 19)



Figure 18. Sync button



Figure 19. Map Areas and overflow menu

Getting Help

APHIS PPQ

Be as specific as possible. Include screenshots, error messaging, any troubleshooting you have performed, and indicate the type of device (iPad, laptop, phone, etc.).

For APHIS PPQ users, if you are having issues with the iPad, laptop, Wi-Fi settings, or issues dealing with installing software, open a ticket with CEC IT. CECHelpDesk@usda.gov or 877-873-0783

If you need technical support or help using the ArcGIS Field Maps application, follow this hierarchy:

1. Your supervisor
2. Local GIS Specialist that supports your area
3. Email WebGIS.Connect@usda.gov

Cooperators & Other Nonfederal Users

Contact your State Plant Health Director's office for assistance.

All Training Resources

As new applications and programs are supported, newly created training documents and self-paced training videos are shared on the APHIS public facing website:

[Mobile Data Collection Tools](#)

Bookmark this site. Visit often. Provide feedback and ideas freely.

End User Tools Request links: [Support Request \(End User Tools\)](#) [Mobile Device Request](#) [Training Request](#)
Contact: WebGIS.Connect@usda.gov

Last Updated: 14 March 2022 10:25